

REMARKS

By this Amendment, claims 1-9 are amended, and claims 10-18 are added. Thus, claims 1-18 are active in the application. Reexamination and reconsideration of the application are respectfully requested.

The specification and abstract have been carefully reviewed and revised in order to correct grammatical and idiomatic errors in order to aid the Examiner in further consideration of the application, and to correct to the informalities of the abstract as noted on page 2 of the Office Action. The amendments to the specification and abstract are incorporated in the attached substitute specification and abstract. No new matter has been added.

Also attached hereto is a marked-up version of the substitute specification and abstract illustrating the changes made to the original specification and abstract.

The Examiner objected to the abstract for exceeding 15 lines in text and containing more than 150 words. In response to this objection, the abstract has been revised so as not exceed 15 lines of text or 150 total words. The substitute abstract contains 12 lines of text and 149 words, and therefore is in compliance with MPEP 608.01(b). Accordingly, the Applicant respectfully requests that the objection to the abstract be withdrawn.

On page 2 of the Office Action, claims 1-2, 7 and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Inokuchi et al. (U.S. 5,978,812, hereinafter "Inokuchi") in view of Tomizawa et al. (U.S. 5,976,658, hereinafter "Tomizawa").

Without intending to acquiesce to this rejection, independent claim 1 has been amended to more clearly illustrate the marked differences between the present invention and the applied references. Accordingly, the Applicant respectfully submits that the present invention is patentable over the applied references for the following reasons. Furthermore, the Applicant respectfully submits that this rejection is inapplicable to new claims 10-18 for the following reasons.

The present invention, as recited in claims 1 and 10, provides a recording and reproduction disk control unit which controls recording and reproduction of digital data onto/from a disk-shaped recording medium. The disk-shaped recording medium has a data recordable area where the digital data composed of either one or both of image data

and voice data are recorded, and one or more management information areas where recording management information employed for management of the digital data is recorded.

The recording and reproduction disk control unit of claims 1 and 10 comprises a data recording and reproduction means (unit) for recording digital data and recording management information onto the disk-shaped recording medium, and reading the digital data and the recording management information from the disk-shaped recording medium.

The recording and reproduction disk control unit of claims 1 and 10 also comprises a data holding means (unit) for temporarily holding the digital data. Further, the recording and reproduction disk control unit of claims 1 and 10 also comprises an image/voice data management means (unit) for monitoring whether or not there is room for recording digital data by the data recording and reproduction means while the data recording and reproduction means takes out the held digital data from the data holding means and records the digital data onto the disk-shaped recording medium.

In addition, the recording and reproduction disk control unit of claims 1 and 10 comprises a recording management information management means (unit) for temporarily holding recording management information and outputting the recording management information to the data recording and reproduction means (unit) to be recorded on the disk-shaped recording medium when the image/voice data management means detects that there is room for recording of the digital data by the data recording and reproduction means (unit).

Accordingly, the recording and reproduction disk control units of claims 1 and 10 record recording management information onto the disk-shaped recording medium while recording digital data onto the disk-shaped recording medium without unfavorably affecting the recording of the digital data even when, for example, the capacity of the recording management information is large.

In particular, as recited as in claims 1 and 10, the data holding means (unit) temporarily holds the digital data, and the image/voice data management means (unit) monitors whether or not there is room for recording digital data by the data recording and reproduction means (unit) while the data recording and reproduction means (unit) takes out the digital data from the data holding means (unit) and records the digital data onto

the disk-shaped recording medium. Further, the recording management information management means (unit) temporarily holds the recording management information and outputs the recording management information to the data recording and reproducing means (unit) to be recorded when the image/voice data management means (unit) detects that there is room for recording of the digital data by the data recording and reproducing means.

Therefore, the inventions of claims 1 and 11 temporarily hold the digital data and detect whether there is room for recording of the digital data on the disk-shaped recording medium. When the image/voice data management means detects that there is room for the data recording and reproducing means (unit) to record the digital data, the recording management information management means outputs the recording management information to the data recording and reproduction means (unit) so that the recording management information is recorded while the held digital data are recorded onto the disk.

As indicated by the Examiner, Inokuchi discloses an information processor that includes a means for recording digital data and recording management information onto a disk, a means for temporarily holding recording management information, and a means for monitoring whether or not there is room for recording of the digital data.

However, the inventions of claims 1 and 10 are markedly different from the information processor of Inokuchi for the following reasons.

As described above, claims 1 and 10 recite that the data holding means (unit) temporarily holds the digital data, the image/voice data management means (unit) monitors whether or not there is room for recording digital data by the data recording and reproduction means (unit) while the data recording and reproduction means (unit) takes out the digital data from the data holding means (unit) and records the digital data onto the disk-shaped recording medium, and the recording management information management means (unit) temporarily holds the recording management information and outputs the recording management information to the data recording and reproducing means (unit) to be recorded when the image/voice data management means (unit) detects that there is room for recording of the digital data by the data recording and reproducing means.

Therefore, the inventions of claims 1 and 10 temporarily hold the digital data and detect that there is room for recording the digital data, i.e., whether it is possible to record the recording management information onto the disk, while the held digital data are recorded onto the disk.

On the other hand, the image processor of Inokuchi detects whether the recordable residual capacity of a disk is larger than the sum of the amount of digital data to be written, detects the amount of recording management information to be written, and detects a margin point that is required for recording the lead out information before the image processor records the digital data and the recording management information onto the disk. Then, the image processor of Inokuchi starts recording the digital data after it is detected that the recordable residual capacity is larger than the calculated sum of the amount of digital data to be written (see Column 19, line 21 to Column 21, line 11 and Figure 31).

In other words, Inokuchi merely records the digital data and recording management information after the image processor determines that the amount of digital data to be written is less than the recordable residual capacity of the disk (i.e., the available space on the disk). Accordingly, the image processor of Inokuchi cannot record the digital data and recording management information onto the disk unless the image processor finishes the above-described calculation and confirms that the recordable residual capacity of the disk exceeds the amount of data to be recorded.

Thus, the image processor of Inokuchi does not temporarily hold the digital data in the device before it records the digital data onto the disk, and does not detect that it is possible to record the recording management information onto the disk while the digital data temporarily held in a data storage unit are recorded onto the disk.

Therefore, Inokuchi clearly does not disclose or suggest the following features (1)-(3) of claims 1 and 10:

- (1) a data holding means (unit) for temporarily holding the digital data,
- (2) an image/voice data management means (unit) for monitoring whether or not there is room for recording digital data by the data recording and reproduction means while the data recording and reproduction means takes out the held digital data from the

data holding means and records the digital data onto the disk-shaped recording medium,
and

(3) a recording management information management means (unit) for temporarily holding recording management information and outputting the recording management information to the data recording and reproduction means (unit) to be recorded on the disk-shaped recording medium when the image/voice data management means detects that there is room for recording of the digital data by the data recording and reproduction means (unit).

Similarly, Tomizawa also clearly does not disclose or suggest features (1) and (3) of claims 1 and 10.

Therefore, the Applicant respectfully submits that Inokuchi and Tomizawa clearly fail to disclose or suggest features (1) and (3) of claims 1 and 10.

Consequently, the Applicant respectfully submits that no obvious combination of Inokuchi and Tomizawa would result in the inventions of claims 1 and 10, since Inokuchi and Tomizawa, either individually or in combination, clearly fail to disclose or suggest each and every limitation of claims 1 and 10.

Moreover, in view of the clear distinctions discussed above, the Applicant respectfully submits that it would not have been obvious to modify Inokuchi and Tomizawa in such a manner as to result in, or otherwise render obvious, the inventions of claims 1 and 10.

Therefore, the Applicant respectfully submits that claims 1 and 10 are clearly patentable over Inokuchi and Tomizawa.

On page 8 of the Office Action, claims 1-3, 7 and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dieleman et al. (U.S. 5,341,356, hereinafter "Dieleman") in view of Inokuchi.

As demonstrated above, Inokuchi clearly fails to disclose or suggest the (1) data holding means (unit), (2) image/voice data management means (unit), and (3) recording management information management means (unit) of claims 1 and 10.

As acknowledged by the Examiner, Dieleman also fails to disclose or suggest features (2)-(3) of claims 1 and 10. In addition, the Applicant respectfully submits that

Dieleman also fails to disclose or suggest feature (1) in combination with features (2) and (3).

Therefore, no obvious combination of Dieleman, Inokuchi and Tomizawa would result in the inventions of claims 1 and 10 since Dieleman, Inokuchi and Tomizawa, either individually or in combination, clearly fail to disclose or suggest features (1)-(3) of claims 1 and 10.

Accordingly, claims 1 and 10 are also clearly patentable over Dieleman, Inokuchi and Tomizawa.

On page 14 of the Office Action, claims 1-2, 5-6 and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohmori (U.S. 5,737,290) and Inokuchi.

As acknowledged by the Examiner, Ohmori also fails to disclose or suggest features (2)-(3) of claims 1 and 10. In addition, the Applicant respectfully submits that Ohmori also fails to disclose or suggest feature (1) in combination with features (2) and (3).

Therefore, no obvious combination of Ohmori, Dieleman, Inokuchi and Tomizawa would result in the inventions of claims 1 and 10 since Ohmori, Dieleman, Inokuchi and Tomizawa, either individually or in combination, clearly fail to disclose or suggest features (1)-(3) of claims 1 and 10.

On pages 5, 7 and 12 of the Office Action, dependent claims 4, 8 and 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Inokuchi in view of Tomizawa, Ginter et al. (U.S. 5,915,019, hereinafter "Ginter"), Agha et al. (U.S. 6,216,226, hereinafter "Agha") and Braxton (U.S. 4,141,006).

However, similar to Ohmori, Dieleman, Inokuchi and Tomizawa, Ginter, Agha and Braxton also fail to disclose or suggest features (1)-(3) of claims 1 and 10.

In particular, the Applicant respectfully submits that none of the applied references disclose or suggest devices which temporarily hold digital data in the device before recording the digital data onto a disk, and detect that it would be possible to record recording management information onto the disk while the digital data are recorded onto the disk, as recited in claims 1 and 10.

Because of the clear distinctions discussed above, it is submitted that the teachings of Ohmori, Dieleman, Inokuchi and Tomizawa, Ginter, Agha and Braxton clearly do not meet each and every limitation of claims 1 and 10.

Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time the invention was made would not have been motivated to modify Ohmori, Dieleman, Inokuchi and Tomizawa, Ginter, Agha and Braxton in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 1 and 10.

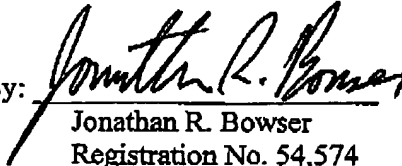
Therefore, it is submitted that the claims 1 and 10, as well as claims 2-9 and 11-18 which depend therefrom, are clearly allowable over the prior art as applied by the Examiner.

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice thereof is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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